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FOREST INSECT INVESTIGATIONS

FOREST INSECT CONDITIONS WITHIN THE GRAND TETON NATIONAL PARK, WITH RECOMMENDATIONS FOR CONTROL - 1931

by
James C. Evenden
Entomologist

Forest Insect Field Station
Coeur d'Alene, Idaho
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INTRODUCTION

Though the substance of this report has been previously submitted through informal letters, conferences, etc., it seems advisable to bring this scattered information together under one report. Such a report will contain a brief summary of all known insect situations within the Grand Teton Park, and present recommendations for control based upon a consideration of regional conditions. With the desire to keep this report as brief as possible, only such data as are believed necessary for complete descriptions will be included.

LEIGH LAKE AREA

Accompanied by Superintendent Woodring and Assistant Superintendent Hayden, an examination was made of the lodgepole pine stands at Leigh Lake on the morning of August 3, 1931. Throughout this area the trees were found to be badly infested with a needle disease, previously determined by Thomas W. Childs, Bureau of Plant Industry, as Hypodermella montivaga. Though this disease is distributed throughout the area, there are spots of very serious injury. Many small trees show stunted growth with scanty foliage, and would seem to be in a very decadent condition as a result of this infection. The seriousness of this disease as it relates to the possible destruction of trees is not known.

In addition to this needle disease there is another condition

within this area which is resulting in a very definite damage to a certain number of trees. On the boles of various sized trees, and at different heights from the ground, a cankerous like condition appears as a rather large spot. The bark on these diseased portions of the tree is apparently very attractive to squirrels and possibly porcupines, for it was difficult to find one of these spots which had not been fed upon. In the course of two or three years this feeding often girdles the tree and results in the death of that portion of the bole above the injury. The cause of this cankerous condition is not clear. The work of a pitch moth was to be seen, as well as the spores of a fungus. The relationship which these two agencies have to each other was not determined, though no doubt one of them could be considered as being primary in causing this condition.

JENNY'S LAKE AREA

The lodgepole pine trees within the camp ground were examined and found to be in a healthy condition. However, this camp site is a relatively new development and the trees have not been subjected to the inevitable injury which follows the use of these grounds by tourists. It is gratifying to note the effective steps which have been taken toward the protection of the trees immediately between the road and the lake, and it is felt that such steps should be extended to the preservation of the smaller and younger trees of the camp ground. In this way the scenic values of the area may be protected from what has become known as "Tourist Kill", an important factor to be considered in the protection of all camp grounds.

Along the west side of Jenny's Lake there is a narrow strip of

mature lodgepole pine which contains some scattered attacks of the mountain pine beetle. A few miles of sample strip were run in this area and it is estimated that there are some 60-80 trees which were attacked in 1931. A number of red tops (1930 attacks) were to be seen but no 1929 attacks were in evidence, though some very old mountain pine beetle work could be found. The source of this infestation is of course unknown. It could have developed locally, or insects could have flown into the area during the 1930 season. This infestation presents a rather serious condition for, though the actual beauty of the area rests with the lake and mountains, the depletion of the lodgepole forests surrounding the lake and within the camp grounds would seriously affect the attractiveness of the area.

SOUTHERN PORTION OF PARK

In the southern portion of the Park there is a rather large area of mature lodgepole pine lying on a bench between the river bed and the mountains. Ten and seven tenths miles of sample strip, one chain in width, were run in this area but no recent mountain pine beetle attacks were recorded. However, at the time this examination was made, the 1931 attacks had hardly started so it is possible that an infestation could have occurred at a later date through flights of insects from adjacent regions. Though the region was noticeably free from old and recent mountain pine beetle work, a few attacks of the lodgepole pine beetle (Dendroctonus murrayanae) were recorded.

RECOMMENDATIONS

In considering the possibility of insect control within the

forests of the Grand Teton National Park, what is now considered as the Yellowstone Park project must be taken into consideration. This project, which has as its primary objective the protection of the scenic forests of the Yellowstone Park, includes not only the control operations within the Park but those of the adjacent National Forests as well. When so considered, the forests of the Grand Teton Park become an intricate part of the Yellowstone project. Not only are they in danger of reinfestation from National Forest areas adjacent, but an infestation within the Teton Park could in turn act as a source of reinfestation to units of adjacent timber lands placed under control.

At the present time the status of the Yellowstone project is in rather an unsettled condition. The plans for 1932 call for an expenditure of several hundred thousand dollars, with the assurance that additional large expenditures will be necessary during the next four or five years. This fact, with the uncertainty of the results which can be expected, has made an issue out of the advisability of continuing this project, and it is not known at this time if an appropriation will be made for the 1932 operation.

In an informal letter to Superintendent Woodring, under date of August 19, 1931, it was recommended that control measures be instituted within the area along the west side of Jenny's Lake, which contains mature lodgepole pine infested with the mountain pine beetle. At the time this recommendation was made the present status of the Yellowstone project was unknown, and these later developments would seem to make institution of control within the Teton Park more or less contingent upon the other

situation. In the event that control measures are again instituted on the Teton National Forest and within the Yellowstone Park, there is no question but that a serious effort should be made to locate and treat, in the spring of 1932, all infested lodgepole pine within the Teton Park. Though the discontinuance of the Yellowstone project would place the thoughts of control within the Teton National Park on a very doubtful platform, there are factors which should be considered before the plan is abandoned. The infestation in the Teton National Forest lies some 18 miles to the south. In the Yellowstone the infestation is even a greater distance to the north, while to the west the timberless mountain ranges might act as a barrier to flights of insects from that direction. Though it is true that these potential sources of reinfestation would constitute a real danger to the success of control instituted on the Grand Teton, no assurance can be given that such an occurrence would take place. From past experiences it would seem that the chance of protecting the timbered areas within the Grand Teton from the present mountain pine beetle epidemic would not be a very great one if the infestation within the adjacent areas is of a necessity left untreated. Though it is recognized that the chances of success would undoubtedly be less than those of failure, I feel the values at stake more than justify the taking of this small chance. Regardless of future sources of reinfestation, one may be assured that a potential epidemic is already present within the area, which if not controlled will rapidly develop into a serious devastating epidemic. Recognizing that the chances of success do not balance equally with those of failure, and that a large expenditure of money based on such a flimsy chance of success would not be justified, it is nevertheless believed that the treatment of the existing infestation

around Jenny's Lake in the spring of 1932 is a justifiable procedure. In consideration of the values at stake, this position is based upon the chance that the success of control measures instituted against the potential epidemic already existing within the area will not be lost through reinfestation from other areas. In addition to the actual economies of this project, there are certain entomological experimental data to be secured from this project which would prove of value in the planning of future control operations.

It is therefore recommended that in view of the values at stake and the relatively small sum of money required, and regardless of the action taken in connection with the Yellowstone project, that control measures be instituted in the Jenny's Lake area during the spring of 1932. It is estimated that a sum of $250 - 300 will be required for the proper location and treatment of the infested trees within this area.

Respectfully submitted,

James C. Evenden

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